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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/623,202	07/18/2003	Joerg Hoffmann	057517/0014	2844
29619	7590	12/06/2004	EXAMINER	
SCHULTE ROTH & ZABEL LLP			NGUYEN, TRAN N	
ATTN: JOEL E. LUTZKER				
919 THIRD AVENUE			ART UNIT	
NEW YORK, NY 10022			PAPER NUMBER	
			2834	

DATE MAILED: 12/06/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

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Office Action Summary

Application No.

10/623,202

Applicant(s)

HOFFMANN ET AL.

Examiner

Tran N. Nguyen

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☐ Claim(s) ____ is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☐ Claim(s) 1,2 and 7-13 is/are rejected.
- 7) ☐ Claim(s) 3-6 is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on ____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. ____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. ____. |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date ____. | 6) <input type="checkbox"/> Other: ____. |

DETAILED ACTION

Priority

1. Receipt is acknowledged of papers submitted under 35 U.S.C. 119(a)-(d), which papers have been placed of record in the file.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

2. **Claims 1-2** rejected under 35 U.S.C. 102(e) as being fully anticipated by **Tashiro** (US 2003/0030340 A1).

Tashiro discloses a spindle motor (figs 1-5) comprising:

a baseplate (1);

a rotor (5-7);

a bearing system (4), said bearing system further comprising at least one component 43a-43b and 44a-44b) directly or indirectly electrically connected to said rotor;

and at least one solid-state contact element (15A, 15B), wherein a permanent electro-conductive connection is provided between said baseplate (1) and said bearing component (44a) of said bearing system through the exertion of mechanical forces by said solid-state contact element (15A) on at least one of said baseplate and said bearing component (figs 1-2); and,

wherein the solid-state contact element (15A, 15B) is positioned between adjoining surfaces of the baseplate and the bearing component (figs 2, 5).

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. **Claims 7-10** are rejected under 35 U.S.C. 103(a) as being unpatentable over **Tashiro** in view of level of ordinary skills of the worker in the art.

Tashiro discloses the claimed invention, particularly the solid-state contact element (15A, 15B) with various configuration. Those skilled in the art would understand that the Tashiro's important teaching is to provide an electrical conductive contact element between the bearing and the baseplate in order to avoid electrostatic that could damage the spindle motor and a hard disc drive. Thus, by applying this essential teaching, it would have been obvious to an artisan to vary the size/shape of the contact element based on the size/shape and configurations of the baseplate and the bearing as well as the general configuration of a spindle motor itself in order to ensure electric contact therebetween.

Therefore, it would have been obvious to one skilled in the art at the time the invention was made to modify the Tashiro's solid-state contact element by configuring it as a spherical body or a wire-shaped pin or an elastic spring or one of coil spring, leaf spring and annular spring, as recited in the claimed invention. Doing so would require only necessary mechanical skills in the art in order to ensure proper mechanical exerting force therebetween for electrical

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contact between the bearing component and the baseplate in order to have effective electrostatic discharge prevention.

4. **Claim 11** is rejected under 35 U.S.C. 103(a) as being unpatentable over **Tashiro** in view of **Liu et al (US 6020664)**

Tashiro discloses the claimed invention, except for the bearing component is a bearing sleeve, as in the claimed invention.

Liu, however, teaches a spindle motor having a liquid filled journal bearing (11, 21) acts between the base assembly (19) and the rotor hub (16) to provide radial support of the hub (16). **Liu** teaches that sleeve, i.e. journal, bearing system would enable the disk drive spindles the mechanical support to achieve a low magnitude of random vibration in both the axial and radial directions. In addition, high stiffness, especially in the radial direction, high shock resistance, and being capable of operating normally despite the orientation of the spindle axis.

Therefore, it would have been obvious to one skilled in the art at the time the invention was made to modify the **Tashiro**'s by replacing the ball bearing system with a sleeve bearing system, as taught by **Liu**. Doing so would provide the spindle motor with low magnitude of random vibration and high stiffness for shock resistance.

5. **Claim 12** is rejected under 35 U.S.C. 103(a) as being unpatentable over **Tashiro** in view of **Ibata et al (US 2002/0089247)**.

Tashiro substantially discloses the claimed invention, except that the Tashiro's bearing and baseplate is electrically connected via a electrically conductive contact element (15A, 15B) instead of a welding seam.

Ibata, however, teaches a motor (figs 1-2) having welding seam (3) is provided to the fitted section between baseplate of frame (1) and bearing housing sleeve (2). Ibata teaches that this structure allows the motor to withstand a strong enough shock. It also produces another advantage, i.e., less variations can be expected in the inner diameters of bearing (7), so that the r.p.m. of the motor becomes stable. Furthermore, those skilled in the art would understand that soldering material is a metallic material that generally has electrically conductive characteristic. Thus, the welding seam (3) of the Ibata's motor would also provide electrical contact therebetween the components.

Therefore, it would have been obvious to one skilled in the art at the time the invention was made to replace the Tashiro's electrical contact component (15A, 15B) by welding seams between the bearing and the baseplate of the housing, as taught by Ibata. Doing so would reduce additional component, i.e., no need to provide a separate electrical contact component (15A, 15B), and to ensure permanent electrical contact as well as mechanical abutment therebetween for the motor to withstand shock and to reduce vibration.

6. **Claim 13** is rejected under 35 U.S.C. 103(a) as being unpatentable over **Tashiro** and **Ibata**, as applied in the rejection against the base claim, and further in view of **Liu et al (US 6020664)**.

Tashiro and Ibata, in combination, disclose the claimed invention, except for the bearing component is a bearing sleeve, as in the claimed invention.

Liu, however, teaches a spindle motor having a liquid filled journal bearing (11, 21) acts between the base assembly (19) and the rotor hub (16) to provide radial support of the hub

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(16). Liu teaches that sleeve, i.e. journal, bearing system would enable the disk drive spindles the mechanical support to achieve a low magnitude of random vibration in both the axial and radial directions. In addition, high stiffness, especially in the radial direction, high shock resistance, and being capable of operating normally despite the orientation of the spindle axis.

Therefore, it would have been obvious to one skilled in the art at the time the invention was made to modify the spindle motor by replacing the ball bearing system with a sleeve bearing system, as taught by Liu. Doing so would provide the spindle motor with low magnitude of random vibration and high stiffness for shock resistance.

Allowable Subject Matter

Claims 3-6 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

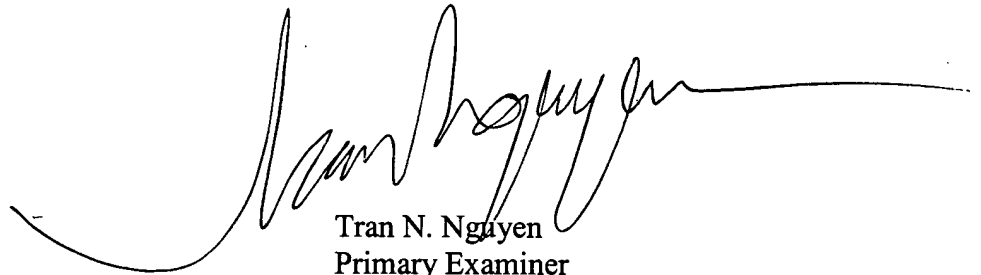
Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Tran N. Nguyen whose telephone number is (571) 272-2030. The examiner can normally be reached on M-F 7:00AM-4:00PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Darren Schuberg can be reached on (571)-272-2044. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

A handwritten signature in black ink, appearing to read 'Tran N. Nguyen', with a long horizontal flourish extending to the right.

Tran N. Nguyen
Primary Examiner
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